

LEBEDEV, K. B.

PONOMAREV, V.D.; NI, L.P.; LEBEDEV, K.B.; SOLENKO, T.V.

Influence of sulfide ions on the speed of dissociation of aluminate  
solutions. Izv. AN Kazakh. SSR. Ser. gor. dela, met., stroi. i stroimat.  
no. 1:34-40 '57. (MLRA 10:5)  
(Sulfides) (Aluminates) (Dissociation)

LEBEDEV, K.B.; MENZHULIN, Yu.N.

Recovering molybdenum and rhenium by sintering molybdenite concentrates with mirabilite. Izv. AN Kaz.SSR. Ser.met.obog. i ogneup. no.1:43-51 '58. (MIRA 12:7)  
(Molybdenum--Metallurgy) (Rhenium--Metallurgy)

LEBEDEV, K.B.

Studying processes of calcium molybdate precipitation from  
solutions containing sulfate-ions. Report no.2. Izv.AN  
Kazakh.SSR.Ser.met.obog.1 ogneup. no.1:56-64 '59.

(MIRA 13:4)

(Calcium molybdate) (Precipitation (Chemistry))

LAPTEV, K. B.

"The Distribution of Valuable Elements in the Beneficiation Process of the Dzhezkazgan and Kounradskiy Ores and in the Metallurgical Processing of Concentrates."

report presented at the Conference on Beneficiation of Useful Minerals, sponsored by the Learned Council of the IPR, AS USSR, Balakhash Karapands, 29 Nov - 4 Dec 1960.

PHASE I BOOK EXPLOITATION

SOV/3595

Lebedev, Konstantin Borisovich, Candidate of Technical Sciences

Reniy (Rhenium) Moscow, Metallurgizdat, 1960. 99 p. 2,600 copies printed.

Reviewers: A.N. Zelikman, Professor, Doctor of Technical Sciences, and V.I. Bibikova, Candidate of Technical Sciences; Ed.: L.V. Belyayevskaya; Ed. of Publishing House: L.M. El'kind; Tech. Ed.: L.V. Dobuzhinskaya.

PURPOSE: This book is intended for technical and scientific personnel in the metallurgy of rare metals.

COVERAGE: This book deals with rhenium, its occurrence, recovery and processing. It describes the physical and chemical properties of rhenium and its compounds, as well as various applications of rhenium including its possible application in jet engineering. It reviews the methods for rhenium extraction in the Soviet Union and in the West, and presents re-evaluated data on Soviet rhenium sources. The author thanks A.N. Zelikman, Doctor of Technical Sciences, V.I. Bibikova, Doctor of Technical Sciences, and L.V. Belyayevskaya, Candidate of Technical Sciences. The appendix contains a list of 33 Soviet works on

Card 1/5

80V/3595

Rhenium

rhenum published from 1931 to 1958. References follow each chapter.

TABLE OF CONTENTS:

Preface	3
Ch. I. Historical Data	5
Bibliography	7
Ch. II. Basic Properties of Rhenium and Its Compounds	9
Metallic rhenium	9
Alloys of rhenium	11
Rhenium oxides	16
Rhenic acid and its salts	19
Rhenium sulfides	22
Haloid compounds	24
Bibliography	25

Card 2/ 5

Rhenium

80V/3595

Ch. III. Fields of Application of Rhenium and Volume of Production	27
Fields of application of rhenium	27
Volume of rhenium production	30
Bibliography	31
Ch. IV. Sources of Rhenium	33
Geochemistry of rhenium	33
Molybdenite concentrates, and the products obtained through processing	37
Behavior of rhenium during roasting of molybdenite concentrates	38
Conditions for trapping rhenium from a gaseous phase	41
Composition of the dust	44
Copper and copper-molybdenum concentrates and the products obtained through processing	45
Bibliography	50

Card 3/5

Rhenium

SOV/3595

Ch. V. Extraction of Rhenium From Rhenium-Bearing Products	52
General review of rhenium extraction methods	52
Extraction of rhenium from the dust of molybdenite concentrate roasting by leachings with water	53
Extraction of rhenium from the dust of molybdenite concentrate roasting by preliminary sintering of the dust with lime	56
Extraction of rhenium from molybdenite concentrates by sintering with mirabilite	58
Extraction of rhenium from molybdenite concentrates by leaching them in an autoclave	60
Extraction of rhenium from dust of copper smelters	61
Extraction of rhenium from furnace scum formed during the smelting of copper slate in shaft furnaces	61
Extraction of rhenium from lead-zinc dust formed during the smelting of copper slate in shaft furnaces.	63
Separation of rhenium from mother liquor of molybdenum by the cemen- tation method	66
Separation of rhenium from mother liquor by the ion-exchange and adsorption methods	70
Bibliography	74

Card 4/5



Rhenium

80V/3595

Ch. VI. Production of Metallic Rhenium	
Reduction of potassium and ammonium perrhenates by hydrogen	76
Production of rhenium by electrolysis	76
Thermal dissociation method	81
High-purity rhenium production	83
Powder metallurgy and mechanical processing of rhenium	84
Ch. VII. Analytical Chemistry of Rhenium	86
Bibliography	
Appendix	88
AVAILABLE: Library of Congress	95
	97

Card 5/5

TM/mas  
6-7-60

S/137/61/000/012/040/149  
A006/A101

AUTHOR: Lebedev, K.B.

TITLE: Studies of rhenium at the Institute of Metallurgy and Concentration of the Academy of Sciences, Kazakh SSR

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 22, abstract 12G160 ("Tr. In-ta metallurgii i okogashcheniya, AN KazSSR", 1960, v. 3, 85 - 89)

TEXT: In 1945-46 the Institute developed together with Giredmet a technological system of extracting Re from dusts of roasted molybdenite concentrates. From 1946 investigations have been carried out on extracting Re from solutions by electrolysis; in 1951 - 53 on Re extraction from solutions by the method of cementation on Fe. During 1958-59 a method was developed for capturing Re from the gaseous phase by a solid absorbent, i.e. a CaO headpiece. At the same time a technological system was developed to extract Re from converter dusts of copper melting plants. According to that system the crushed dust is subjected to triple lixiviation with a hot soda solution at 5:1 liquid-solid ratio. Soda

Card 1/2

Studies of rhenium ...

S/137/61/000/012/040/149  
A006/A101

consumption is 40% of the dust weight, 90% of Re is dissolved in the solution. From solutions, containing 40 - 60 mg/l Re and about 1 g/l free soda, Re can be extracted by passing the cooled solution through adsorption filters filled with active coal. The total Re extraction into K perrhenate is  $> 70\%$ .

L. Vorob'yeva

[Abstracter's note: Complete translation]

Card 2/2

S/697/61/000/000/007/018  
D228/D304

AUTHORS: Lebedev, K. B. and Rodzhayevskiy, V. V.  
TITLE: Extraction of rhenium from the mother liquors of plants producing calcium molybdate  
SOURCE: Akademiya nauk SSSR. Institut metallurgii im. A. A. Baykova. Institut mineralogii, geokhimii i kristalloghimii redkikh elementov. Mezhdudomstvennaya komissiya po redkim metallam. Vsesoyuznoye soveshchaniye po probleme re-niya. Moscow, 1958. Rheniy; trudy soveshchaniya. Moscow; Izd-vo AN SSSR, 1961, 62-66

TEXT: The authors discuss some recent developments in the recovery of Re from the mother liquors of plants producing  $\text{CaMoO}_4$ . Research on Re extraction by the cementation method was initiated in 1950 by O.A. Suvorova and B. N. Zuyev at the Institut metallurgii i obogashcheniya AN KazSSR (Institute of Metallurgy and Beneficiation, Academy of Sciences, Kaz. SSR), and their main conclusions are summarized.

Card 1/3

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S/697/61/000/000/007/018  
D228/D304

Extraction of rhenium ...

... rized. B. N. Zuyev has also studied the influence of the chief ingredients of mother liquors --  $\text{NaCl}$  and  $\text{Na}_2\text{MoO}_4$  -- on the process of Re cementation. The optimum processing conditions recommended by him include: an initial acidity of 0.06 g equiv/l for the solution, a pH of 2, a temperature of  $60^\circ\text{C}$ , and the treatment of the ppt. with a 1% solution of  $\text{NaOH}$ . The apparatus and procedure devised by V. G. Kovyshin and V. K. Apollonov are next described; this was used to prepare a cementation ppt. containing 0.51% Re and 19.82% Mo. Details are also given about two methods in which Mo and Re are respectively extracted from the mother liquor by ion-exchange and adsorption techniques. In the former Mo is recovered by means of the anion-exchange resin "Espatite AH-1 (AN-1)" at  $30^\circ\text{C}$  and a pH of 3, the extraction of Mo being about 96%. This ionite has a total exchange capacity of 30% in terms of the wt. of absorbed Mo. Water and ammonia are used to regenerate the resin and remove the Mo. In the other method Re is first adsorbed on activated carbon as the anion  $\text{ReO}_4^-$ ; then it is leached from the ash of the cal-

Card 2/3

Extraction of rhenium ...

S/697/61/000/000/007/012  
D228/D304

cined carbon and ppt. with KCl. It is noted, too, that a means of  
regenerating the activated carbon has recently been perfected.  
There are 4 Soviet-bloc references.

Card 3/3

LEBEDEV, K.B.

Studying the process of calcium molybdate precipitation from  
solutions containing sulfate ions. Report no.1. Izv.AN Kazakh.  
SSR.Ser.met., obog.1 ogneup. no.2:32-42 '58. (MIRA 16:2)  
(Calcium molybdate) (Leaching)

LEBEDEV, K.B.

Behavior of rare scattered elements during the processing of  
copper ores from central Kazakhstan. Vest. AN Kazakh. SSR 16  
58-63 Ag '60. (MIRA 13:9)  
(Kazakhstan--Copper--Metallurgy)  
(Metals, Rare and minor)

LEBEDEV, K.B.

Research on rhenium carried out by the Institute of Metallurgy  
and Ore Dressing of the Academy of Sciences of the Kazakh S.S.R.  
Trudy Inst. met. i obogashch. AN Kazakh. SSR 3:85-89 '60.  
(MIRA 14:6)

(Rhenium)  
(Khazakhstan—Metallurgical research)



S/081/62/000/013/021/054  
B158/B144

AUTHORS: Lebedev, K. B., Ageyev, S. A.

TITLE: Extraction of rhenium from copper concentrates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1962, 395, abstract  
13K61 (Izv. AN KazSSR. Ser. metallurgii, obogashcheniya i  
ogneuporov, no. 1 (10), 1961, 48-54)

TEXT: The following methods of extracting rhenium from copper concentrates are considered: hydrometallurgical processing of the concentrates with extraction of the copper, rhenium and other valuable components; choosing a selective solvent for extraction of the rhenium directly from the concentrates; extraction of the rhenium from wastes resulting from processing of copper concentrates by a pyrometallurgical method, particularly from dusts. Experimental data are given on the effect of temperature, duration of processing of the concentrate, and of ultrasonics on the extent to which rhenium passes into solution. [Abstracter's note: Complete translation.]

Card 1/1

S/137/62/000/006/055/163  
A052/A101

AUTHORS: Lebedev, K. B., Rodzayevskiy, V. V.

TITLE: Rhenium extraction from mother liquors of calcium molybdate shops

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 18, abstract 60139  
(In collection: "Reniy", Moscow, AN SSSR, 1961, 62 - 66)

TEXT: As a result of processing poor Mo-concentrates after Ca molybdate precipitation mother liquors form which contain up to 30 mg/l Re. From mother liquors Mo is extracted selectively with the anionite "Espatit AN-1". Re is separated from Mo and in the following process is collected by activated carbon. The extraction of Mo from the mother liquor makes up 96% on an average. A detailed description of the ion-exchange method of Mo extraction and of the adsorption method of Re concentration is given. As a result of processing Mo-concentrates solutions are obtained containing 400 - 500 mg/l Re, they are evaporated to 12 - 15 g/l Re content, and Re is precipitated in the form of  $KReO_4$  with a threefold amount of KCl.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

S/137/62/000/006/019/163  
A006/A101

AUTHOR: Lebedev, K. B.

TITLE: The possibility of increasing the industrial volume of rhenium production

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 3, abstract 6G21  
(In collection: "Reniy", Moscow, AN SSSR, 1961, 3 - 6)

TEXT: In 1960, about 5 tons of Re were produced in the United States and the world production was 10 tons without the USSR. At the present, Re is being mainly produced from wastes of processing Mo-concentrates. To increase Re production from Mo and Cu-concentrates, new flotation methods should be used assuring the complete Re transfer either into concentrates or solutions; Re should be extracted from flotation waters at the existing plants; from Cu concentrates prior to their metallurgical processing, and from metallurgical dusts. New methods of processing Cu-concentrates, such as cyclone melting; melting in suspended state; electric melting and hydrometallurgy, must be brought into use.

[Abstracter's note: Complete translation]

L. Vorob'yeva ✓

Card 1/1

S/137/61/000/012/041/149  
A006/A101

AUTHORS: Lebedev, K.B., Ageyev, S.A.

TITLE: On the problem of rhenium extraction from copper concentrates

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961. 22-23, abstract  
12G161 (Izv. AN KazSSR, Ser. metallurgii, obogashcheniya i ogneuporov, 1961, no. 1 (10), 48 - 54, Kaz. summary)

TEXT: The authors studied conditions of Re-transition into a solution, when processing the concentrates with various reagents and by indirect determination of the form of Re-occurrence in Cu concentrates. If Cu-sulfide concentrates are processed with water during a sufficiently long period of time at high temperature, 30% of Re, contained in the concentrate, can be dissolved in the solution. If the concentrate is processed with alkaline solutions (soda or caustic Na) the degree of Re dissolving in the solution increases noticeably, depending on temperature and somewhat less on the duration of processing. When the concentrate is processed during 4 hours at 60 - 70°C, 65 - 70% of Re can be dissolved in the solution. More than 50% of Re can be dissolved in the solution with alkaline solutions under the following conditions: 50 - 60°C; 1 - 2 hours mixing without

Card 1/2

On the problem of rhenium extraction ...

S/137/61/000/012/041/149  
ACC6/A101

aeration; alkali consumption - 10 to 15% of the concentrate weight. Multiple processing of the concentrate with alkaline solutions does not noticeably increase Re extraction into the solution. Prolonged lixiviation promotes Re transition into the solution, in particular at elevated temperatures. The use of ultrasonic waves of 21.5 kcycles frequency (under similar conditions) promotes Re transition into the solution. When processing the concentrates with a Na hypochlorite solution it was revealed that changes in the NaOH concentration, within 10 - 50 g/l, do not affect the degree of Re transition into the solution, which is neither influenced by higher temperatures. Under certain conditions 73.3% of Re can be extracted from the concentrate into the Na hypochlorite solution, and up to 80% at triple processing. ✓

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

PONOMAREVA, Ye.I.; LEBEDEV, K.B.

Autoclave alkali treatment of molybdenite, rhenium-bearing concentrates. Trudy Inst. met. i obogashch. AN Kazakh. SSR 4: 28-33 '62. (MIRA 15:8)  
(Molybdenum--Metallurgy) (Rhenium--Metallurgy)

LEBEDEV, K.B.; TYUREKHODZHAYEVA, T.Sh.

Rhenium oxidation by atmospheric oxygen during the  
hydrometallurgical treatment of copper concentrates.

Trudy Inst. met. i obog. AN Kazakh. SSR 5:69-71 '62.

(MIRA 15:11)

(Rhenium--Metallurgy)

(Hydrometallurgy)

LEBEDEV, K.B.; TYUREKHODZHAYEVA, T.Sh.

Behavior of rhenium and molybdenum sulfides in inorganic solvents.  
Trudy Inst. met. i obogashch. AN Kazakh. SSR 4:170-178 '62.

(MIRA 15:8)

(Sulfides—Metallurgy) (Hydrometallurgy)



LEBEDEV, Konstantin Borisovich; TARANENKO, B.I., otv. red.; PUSHKINA,  
L.I., red.; ZHUKOVA, N.D., red; ALFEROVA, P.F., tekhn. red.

[Production of calcium molybdate] Proizvodstvo molibdata kal'-  
tsiia. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1962. 119 p.  
(MIRA 15:5)

(Calcium molybdate)

S/817/62/005/000/004/012  
A006/A101

AUTHORS: Lebedev, K. B., Tyurekhodzhaeva, T. Sh.

TITLE:

Rhenium oxidation with air oxygen in the hydrometallurgical processing of copper concentrates

SOURCE:

Akademiya nauk Kazakhskoy SSR. Institut metallurgii i obogashcheniya. Trudy. v. 5, 1962, Tsvetnaya metallurgiya, 69 - 71

TEXT:

To reveal rhenium concentration in products of copper and molybdenum ore processing, and to develop a technique of rhenium extraction, it is important to know its behavior in various concentration and metallurgical processes. The determination of the effect of rhenium in flotation and hydrometallurgical processing of the concentrates. For this purpose the authors conducted a series of experiments on leaching-out copper sulfide concentrates without and with air-bubbling of the concentrate. The experimental conditions were a) the BTMK method: solid:liquid = 1:3; the composition of the solution: 10 g/l soda, 17 g/l calcium oxide; duration of mechanical stirring: 5 hours; temperature  $\sim 95^{\circ}\text{C}$ ; and

Card 1/2

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Rhenium oxidation with air oxygen in...

S/817/62/005/000/004/012  
A006/A101

b) the IM10 method, proposed by the authors: solid:liquid = 1:5; soda solution 30 g/l; mechanical stirring for 5 hours, at  $\sim 95^{\circ}\text{C}$ . Aged dry, fresh dry and fresh wet concentrate samples were used. It was found that sample no. 1 was not affected by air bubbling. It is extracted by the IM10 method about 25% more than by the BGMK method. The effect of air oxygen is high for samples no. 2, dried at 80 - 100 C: Re extraction increases by 40% (BGMK) and by 19% (IM10). The effect on Re-oxidation decreases to 18% (BGMK) and to 3% (IM10) when sample no. 3 is treated by air bubbling. The experiments show that in all cases the IM10 method yields optimum results. Preliminarily dried concentrates should be lixiviated. During lixiviation the pulp should be subjected to intensive air bubbling, in particular when processing dried concentrate. There is 1 table.

Card 2/2

BERNARD, K.B.; TYURKOV, T.

Effect of certain types of ... on the adsorbability  
of phenol by ... Cont. rel. 1 obog. AN  
Kazakh. SSR ...  
(M RA 17:8)

27  
The Second All-Union Conference on Rhenium, sponsored by the Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, and the State Institute of Rare Metals, was held in Moscow 19-21 November 1962. A total of 335 representatives from 83 scientific institutions and industrial establishments participated. Among the reports presented were the following: autoclave extraction of Re from Cu concentrates (A. P. Zelikman and A. A. Peredereyev); Re extraction from the gaseous phase (V. P. Savrayev and N. L. Peysakhov); recovery of Re by sorption and ion interchange (V. I. Bibikova, V. V. Il'ichenko, K. B. Lebedev, G. Sh. Tyurekhodzhaeva, V. V. Yermilov, Ye. S. Raimbekov, and M. I. Filimonov); production of carbonyl Re (A. A. Ginzburg); electrolytic production of high-purity Re and electroplating with Re (Z. M. Sominskaya and A. A. Nikitina); Re coatings on refractory metals produced by thermal dissociation of Re chlorides (A. N. Zelikman and N. V. Baryshnikov); plastic deformation and thermomechanical treatment of Re (V. I. Karavaytsev and Yu. A. Sokolov); growth of Re single crystals and effect of O<sub>2</sub> on their properties (Ye. M. Savitskiy and G. Ye. Chuprikov); Re-Mo, Re-W, and Re-precious-metal alloys (Ye. M. Savitskiy, M. A. Tytkina, and K. B. Povarova); synthesis of Re nitrides, silicides, phosphides, and selenides (G. V. Samsonov, V. A. Obolonchik, and V. S. Neshpor); weldability of Re-Mo and Re-W alloys (V. V. D'yachenko, B. P. Morozov, and G. N. Kichenov); new fields of application for Re and Re alloys (M. A. Tytkina and Ye. M. Savitskiy); and Re-Mo alloy for thermocouples (S. K. Danishevskiy, Yu. A. Kocherzhinskiy, and G. B. Lapp). [WW]

Tsvetnyye metally, no. 4, Apr 1963, pp 92-93

L 23876-65 EWT(m)/EPR/EWP(t)/EWP(b) Ps-4 IJP(c) JD/MLK

ACCESSION NR: AT5002755

S/0000/64/000/000/0040/0043

AUTHOR: Lebedev, K. B.; Ageyev, S. A.; Okhotnikova, N. A.; Yermilov, V. V.;  
Raimbekov, Ye. S.; Filimonov, M. I.

TITLE: Recovery of rhenium from copper concentrates by alkaline leaching

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d. Moscow, 1962. Reniy  
(Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 40-43

TOPIC TAGS: rhenium, rhenium extraction, copper concentrate, alkaline leaching,  
rhenium cementation, potassium perrhenate

ABSTRACT: The authors propose a method for recovering rhenium in which the concentrate (about 30% copper, 3% lead, 2% zinc, and 0.003% rhenium) is leached with sodium hydroxide, rhenium and lead go into solution, and their cementation is then carried out on zinc. A complete flow diagram of the process is given, and the procedure is described in detail. The method is applicable to both copper and copper-lead rhenium-containing concentrates. The final recovery of the metals is tentatively estimated as follows: rhenium in potassium perrhenat, 50-55%; lead in crude lead, 20-25%; zinc in sheet zinc, up to 2%. Orig. art. has: 1 figure

Card 1/2

L 23876-65

ACCESSION NR: AT5002755

and 1 formula.

ASSOCIATION: None

SUBMITTED: 05Aug64

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 000

Card 2/2

L 23880-65 EWT(m)/T MLK

ACCESSION NR: AT5002758

9/0000/64/000/000/0055/0060

AUTHOR: Lebedev, K. B.; Tyurekhodzhayeva, T. Sh. *B+1*

TITLE: A study of the conditions for the recovery of rhenum from lean solutions by adsorption on activated charcoal *21*

SOURCE: Vsesoyuznoye soveshchaniya po probleme reniya. 2d, Moscow, 1962. Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 55-60

TOPIC TAGS: rhenum, rhenum refining, rhenum adsorption, activated charcoal, charcoal exchange capacity, column chromatography

ABSTRACT: The purpose of the investigation was to select the best adsorbent for the recovery of rhenum from solutions at pH 2.6 and 12 containing up to 30 mg rhenum per liter, and to study the influence of certain physicochemical factors and anions present in industrial and natural solutions on the rhenum adsorption capacity of activated charcoals (AG-N, AG-3, AG-5, AR-3, BAU, SKT, KAD, sulfonated coal). The dynamic exchange capacity (DEC) and total exchange capacity (TEC) of the charcoal for rhenum were determined. The best results in the recovery of rhenum were obtained with charcoal AG-N, AG-3, and AG-5 in acid media. The opti- *7*

Card 1/2



L 23880-65

ACCESSION NR: AT5002758

mm conditions were: carbon particle size of  $-1+0.5$  mm, flow rate of solution no more than 100 mg/hr. through 3 g of charcoal, and room temperature. In order to increase the activity of the charcoal with respect to rhenium, it is necessary to wash it with a weak (0.01 N) solution of sulfuric acid before use. Elution of rhenium as accomplished with hot solutions of sodium carbonate. The charcoal may be regenerated 3 to 4 times, after which its rhenium activity drops by 60% of the initial value. The anionic impurities studied can be arranged as follows in order of increasing adverse influence on rhenium adsorption: sulfates, chlorides, carbonates, oxysulfides, and xanthogenates. Orig. art. has: 2 figures and 3 tables.

ASSOCIATION: None

SUBMITTED: 05Aug64

ENCL: 00

SUB CODE: MM

NO REF SOV: 001

OTHER: 000

Card 2/2

LEBEDEV, K.B.; AGRYUM, S.A.; YEMCHUK, V.V.

Rhenium recovery from azeotropic solutions by a mixed ion exchange  
and adsorption. Trudy Inst. met. i obsh. khim. Kazan. SSR 19:30-33  
'64. (NINA 1964)

ИРБЕВ, К.Б.; ГУМАРОВА, Т.Б.; ШИШИН, В.А.

Rhenium cementation from alkali solution. Izv. Akad. Nauk Kazakh. SSR 12:168-175 '65. (MIRA 12:16)

LEBEDEV, K.B.; TYUREKHODZHAYEVA, T.Sh.

Selecting an adsorbent and a solution medium for the recovery  
of rhenium and thallium from lean solutions. Trudy Inst. met.  
i obog. AN Kazakh. SSR 6:148-155 '63. (MIRA 16:10)

LEBEDEV, K. D., and SVARCHEVSKIY, V. V.

"Test of Remote Bearing Wind Gage," Tr. lav. geofiz. observ., No 43, pp 53-57, 1954

The construction of a small remote bearing wind gage designed by the authors in the Main Geophysical Observatory is described. The design is based on an ac current tachymeter. For remote bearing a dc potentiometer designed by A. P. Sokolovskiy is used. The accuracy of the instrument proved to be satisfactory. (RZhFiz, No 6, 1955)

Sum. No. 681, 7 Oct. 55

LEBEDEV, K. I.

"Investigation of Natural Circulation in Vertical Evaporators."  
Thesis for degree of Cand. Technical Sci. Sub. 19 May 49, Moscow  
Inst. of Chemical Machine Building.

Summary 82, 18 Dec. 52, Dissertations Presented for Degrees in  
Science and Engineering in Moscow in 1949. From Vechernyaya  
Moskva, Jan-Dec. 1949

LEBEDEV, K. I.

USSR/Physics - Dielectric Constants  
Polarization, Relaxation

Dec 49

"Application of the New Method for Studying Relaxation Processes to a Study of Relaxation Polarization in Dielectrics," G. I. Skanavi, N. A. Tolstoy, P. P. Feofilov, K. I. Lebedev, Phys Inst imeni Lebedev, Acad Sci USSR, 9 pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No 12

To study relaxation polarization in dielectrics. titanium dioxide with small additions of oxides of metals belonging to the second group of the periodic table (this group gives very high values of  $\epsilon$  in the region of low frequencies), one employs the oscillographic method of studying, by electrical square-wave impulses through ohmic resistances, the charge and discharge of the condensers containing the dielectric under study. Here a simple exponential development of the process in time is employed, as well as more complicated ones. Shows charge and discharge processes of the condenser with the dielectric under study have a complex character differing from the exponential. Equivalent circuit schemes are found for the dielectrics under study. Parameters of these schemes are determined experimentally. Calculation of these equivalent schemes permits one to obtain the function of current drop with time in each studied dielectric with calculated constants and thus to evaluate values of initial currents. Submitted

23 Jun 49

PA 152T87

KAPITONOV, Ye.N.; LEHEDEV, K.I.

Studying the hydraulic resistance and heat transfer during the  
flow of boiling solutions in a horizontal pipe. Khim.prom. 41  
no.7:511-515 J1 '65. (MIRA 18:8)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.



SHORIN, S.N., doktor tekhn. nauk, prof., red.; SHCHEPKIN, S.I., zasl. deyatel' nauki i tekhniki, prof., otv. red.; LASTOVTSEV, A.M., prof. red.; KARAVAYEV, N.M., prof., red.; KOKOREV, D.T., prof., red.; PETROKAS, L.V., prof., red.; RESHCHIKOV, P.M., dots., red.; SOKOLOV, S.N., prof., red.; SOKOLOV, S.I., prof., red.; KHODZHAYEV, A.M., dots., red.; LEBEDEV, K.I., kand. tekhn. nauk, dots. red.; TAIROVA, A.L., red. izd-va; UVAROVA, A.F., tekhn. red.

[Investigation and calculation of heat engineering and power generating processes] Issledovaniia i raschety teploenergeticheskikh i energo-khimicheskikh protsessov; sbornik statei. Pod red. S.N.Shorina. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 137 p. (MIRA 14:10)

1. Moscow. Institut khimicheskogo mashinostroyeniya.  
(Heat engineering) (Power engineering)

LEBEDEV, K.K.; CHISTOV, I.F.; RAKITINA, M.A.

Improving the quality of n-butanol produced by synthetic rubber  
factories. *Gidroliz. i lesokhim. prom.* 17 no.3:13-15 '64.

(MIRA 17:9)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy  
institut.

LEBEDEV, K. K.

LEBEDEV, K. K.: "The transformation of lignin in lowland peat bogs."  
Acad Sci Belorussian SSR. Department of Physicomathematical  
and Technical Sciences. Minsk, 1956.  
(Dissertation for the Degree of Candidate in Chemical Sciences.)

SO: Knizhnaya Letopis', No. 26, 1956

Lebedev, K.K.

✓ 3409. DETERMINATION OF DISPERSION OF PEAT BY MEASUREMENT OF  
SEDIMENTATION. Lebedev, K.K. (Kolloid. Zh. (Colloid J., Moscow), 1956, *item* 1

LEBEDEV, K. K.

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of  
Solid Mineral Fuels, I-12

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62554

Author: Lebedev, K. K.

Institution: None

Title: On Determination of the Degree of Dispersion of Peat by Sedimento-  
metric Methods

Original

Periodical: Kolloid. zh., 1956, 18, No 1, 122-124

Abstract: Investigation of the dissolving action of water on peat on settling  
of aqueous suspensions of 5 varieties of peat for 2.5-30 days. It  
is shown that the amount of dissolved substances depends on organic  
as well as on mineral components of the peat and that a distortion  
of the results is especially pronounced with low concentrations and  
small particles. The standard pipette method is not applicable to  
peat. Recommended is the use of a proper correction of the results  
obtained by the more precise procedure of Volarovich and Churayev.

Card 1/1

LEBEDEV, K.K.

Nonhydrolyzable residue of lowland peats. Trudy Inst. torfa  
AN BSSR 7:19-35 '59. (MIRA 14:1)  
(Peat) (Lignin)

LEBEDEV, K.K.

Changes in layers of the nonhydrolyzable residue of peat from  
lowland deposits. Trudy Inst. torfa AN BSSR 7:36-49 '59.

(MIRA 14:1)

(Peat)      (Lignin)

LEBEDEV K. K.

О СИНТЕЗЕ НЕГИДРОЛИЗУЕМЫХ ВЕЩЕСТВ В ТОРФАХ  
К. К. Лебедев

VIII Mendeleev Congress for General and Applied Chemistry in  
Section of Chemistry and Chemical Technology of Fuels,  
publ. by Acad. Sci. USSR, Moscow 1959

Abstracts of reports scheduled to be presented at above mentioned congress,  
Moscow, 15 March 1959.



11(7)

PHASE I BOOK EXPLOITATION

SOV/2996

Akademiya nauk SSSR. Institut goryuchikh iskopayemykh

Genezis tverdykh goryuchikh iskopayemykh (Genesis Of Solid Fuels) Moscow, AN SSSR, 1959. 358 p. Errata slip inserted. 2,000 copies printed.

Sponsoring Agency: Vsesoyuznoye khimicheskoye obshchestvo im. D. I. Mendeleyeva. Moskovskoye otdeleniye.

Resp. Eds.: N. M. Karavayev, Corresponding Member, USSR Academy of Sciences, and N. G. Titov, Doctor of Chemical Sciences; Ed. of Publishing House: A. L. Bankvitser; Tech. Ed.: I. F. Kuz'min.

**PURPOSE:** This collection of articles is intended for geochemists, geologists, and other specialists interested in the genesis of solid mineral fuels.

**COVERAGE:** The collection of papers on the genesis of solid mineral fuels has been prepared for presentation at the 2nd All-Union Conference on this subject. The formation of humic acids and peat from the decomposition of microorganisms and plants is discussed in connection with studies on the origin of hard coal and brown coal and on the role of certain mineral components in the coal-forming process. The chemical composition of peat and the organic mass of

Card 1/5

Genesis Of Solid Fuels

SOV/2996

coal are analyzed and shown in a number of tables. Estonian "Kukkersite" oil shales are analyzed as are the brown coals of the Dnepropetrovsk basin. Metamorphism and carbonization of coal found in different parts of the Urals and the Ukrainian SSR are also discussed. The transformation of parent matter into combustible minerals is analyzed. References accompany individual articles.

TABLE OF CONTENTS:

Dragunov, S. S. Formation of Humic Acids Under Different Natural Conditions	5
Lebedev, K. K. Role of Mineral Components in the Formation of Peat Deposits	16
Lebedev, K. K. Correlation of Lignin and Humic Acids in Peat Accumulated in Depressions	31
Nikonov, M. N. Prerequisites for Coal Formation as Understood From Available Data on Present Peat Deposits	51
Aarna, A. Ya. On the Formation of the Estonian Oil Shale Deposits	57
Card 2/5	

Genesis Of Solid Fuels	SOV/2996	
Raudsepp, Kh. T. Genesis of Estonian Kukkersite Oil Shale		69
Fomina, A. S. On the Question of the Origin of Baltic Kukkersite Oil Shale		77
Karavayev, N. M., and I. A. Vikman. Lignite and Initial Stages of Coal Formation		92
Syabryay, V. T. Origin of Brown Coal Found in the Dnepropetrovsk Basin of the Ukrainian SSR		106
Chernousov, Ya. M. Irregular Carbonization of Mesozoic Coal Found on the Eastern Flank of the Central and Northern Urals		121
Bogolyubova, L. I. Petrographic and Chemical Characteristics of Some Types of Coal From Volchanskoye and Bogoslovskoye Deposits		137
Kiryukov, V. V. Conditions of Formation of Slightly Carbonized Coal From Southern Ural Brown Coal Basin		143
Card 3/5		

Genesis Of Solid Fuels

SOV/2996

Knyazev, V. A. Metamorphism of Brown Coal From Bogoslovskoye and Veselovskoye Deposits of the Eastern Flank of the Northern Urals	160
Bludorov, A. I. Geologic Conditions of Transformation of Coal Substance in the Southeastern Part of the Russian Platform	166
Grigor'yev, M. Yu. Some Possible Conditions Under Which Coal Strata Could Have Been Formed at the Kuznetsk Basin	180
Zabramnyy, D. T. Evolution of Humic Coal During Metamorphism	189
Shternberg, L. Ye. Changes in Microscopic Characteristics of Clarain Coal of the Donbass During Metamorphism	198
Kalinenko, V. V. Genesis of Jurassic Coal at Tuva	221
Gebler, I. V. Organic Sulfur in Coal	241
Kasatochkin, V. I. Some General Physical and Chemical Questions Concerning the Coal-forming Process	247
Card 4/5	

Genesis Of Solid Fuels

SOV/2996

- Panov, N. I. Characteristics of the Process of Transformation of Parent Matter Into Present Combustible Minerals and the Connection of These Characteristics With the Principal Properties of Combustible Minerals 268
- Ammosov, I. I. Genetic Features of the Coal Substance as Ascertained by Petrographic Findings 295
- Zabavin, V. I. Chemical Nature of the Basic Organic Mass of Hard and Brown Coal and Changes During Metamorphism 309
- Kukhareenko, T. A. Changes in the Structure and Properties of Humic Acids During the Coal-forming Process 319
- Titov, N. G. Role of Mineral Elements in the Coal-forming Process 338
- Kaminskiy, V. S., A. L. Rubinahteyn, and A. Z. Yurovskiy. Genesis of Organic Sulfurous Compounds Contained in Coal 344

AVAILABLE: Library of Congress (TN800.A32)

Card 5/5

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KORYAKIN, V.I.; LEBEDEV, K.K.

Experience in operating a continuous wood drying kiln at the  
Perechin Wood-Chemical Plant. Sbor.trud. TSNIILKHI no.13:16-21  
'59. (MIRA 13:10)

(Perechin--Wood--Drying)

LEBEDEV, K.K.

Purification of sewage from rosin and turpentine industries by  
settling and filtration. Sbor. trud. TSNILKHI no.12:167-173 '57.  
(MIRA 13:10)

(Turpentine industry)

(Sewage--Purification)

LEBEDEV, K.K.

Characteristics of industrial wastes from enterprises using peat  
water as feed water. Sbor.trud.TSNILKHI no.14:94-97 '61.

(MIRA 16:4)

(Feed water purification)

(Refuse and refuse disposal)



LEBEDEV, K.K.

Metrology of control procedures used for the analysis of  
technological wood. Sbor. trud. TSNILKHI no.15:86-2 '63.  
(MIRA 17:11)

LEBEDEV, K.K.

Low-boiling components of Scotch pine turpentine as related to the distillation standards up to 170°C. Short. trad. TSNIILKHI no.15:70-77 '63.

Use of the reaction with diazotized sulfanilic acid for determining phenols in the waste waters of rosin and turpentine production. Ibid.:119-122

Wood chemicals industry in pre-Revolutionary Russia. Ibid.: 135-148

(MIRA 17:11)

LEBEDEV, K.K.; TOMINA, L.A.; RAKITINA, M.A.; KAREV, V.Ya.

Absorption of impurities in the discharging of waste waters  
of wood chemicals industries into peat bogs. Sbor. trud.  
TSNIIKHI no.15:123-129 '63.

(MIRA 17:11)

LEBEDEV, K. K. (Cand Chem Sci)

"Gesetzmäßigkeiten der chemischen Charakteristiken des Niedermoor-Torfes."

paper submitted for 9th Intl Cong, Moorland Research, Budapest & Keszthely,  
Hungary, 11-17 Sep 65.

HERB EV. K. L.

✓ Stainless chromium steel

KAZAKOVSKIY, Dmitriy Antonovich, prof., doktor tekhn.nauk; AVERSHIN, Stepan Gavrilovich, prof., doktor tekhn.nauk; BELOLIKOV, Antonin Nikolayevich, dotsent, kand.tekhn.nauk; GUSEV, Mikhail Iosifovich, dotsent, kand.tekhn.nauk; ZDANOVICH, Vyacheslav Grigor'yevich, prof., doktor tekhn.nauk; KROTOV, Gavriil Alekseyevich, dotsent, kand.tekhn.nauk; LAVROV, Vladimir Nikolayevich, kand.tekhn.nauk; LEBEDEV, Kirill Mikhaylovich, assistant; PIATLIN, Mikhail Petrovich, dotsent, kand.tekhn.nauk; STENIN, Nikolay Ivanovich, assistant; BUKHINSKIY, V.A., otv.red.; SLAVOROSOV, A.Kh., red.izd-va; ALADOVA, Ye.I., tekhn.red.; KOROVENKOVA, Z.A., tekhn.red.

[Mine surveying] Marksheiderskoe delo. Moskva, Ugletekhizdat,  
1959. 688 p. (MIRA 13:11)

(Mine surveying)

LEBEDEV, K. N.

Lebedev, K. N. - "Certain correlations in a reactive quadripole," Sbornik trudov Leningr. elektrotekhn in-ta svyazi im. Bonch-Bruевича, Issur 5, 1949, p. 74-80, - Bibliog: 6 items

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

KUSHNIR, F.V., ovt.red.; GAVRILOV, A.F., zasluzhennyy deyatel' nauki i tekhniki, prof., red.; DOLUKHANOV, M.P., prof., red.; YEGOROV, K.P., dots., red.; ZHDANOV, I.M., prof., red.; ZELYAKH, E.V., prof., red.; ZELIGER, N.B., prof., red.; LEBEDEV, K.N., dots., red.; ODNOL'KO, V.V., dots., red.; ROMANOVSKIY, V.B. [deceased], dots., red.; FOMICHEV, I.N., dots., red.; SHINIBEROV, P.Ya., dots., red.; SHMAKOV, P.V., zasluzhennyy deyatel' nauki i tekhniki prof., red.; GAL'CHINSKAYA, V.V., tekhn.red.

[Structure and reactivity of organic compounds] Voprosy stroeniya i reaktsionnoi sposobnosti organicheskikh soedinenii. Leningrad, 1959. 372 p. (Leningrad. Elektrotekhnicheskii institut svyazi. Trudy, no.8). (MIRA 13:11)  
(Chemistry, Organic) (Chemical structure)



LEEDEV, K. I.

Mashiny dlia sooruzheniia tsementobetonnykh pokrytii avtomobil'nykh dorog  
[Machines for laying concrete surfaces on automobile roads]. Moskva, Mashgiz,  
1953. 132 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 9 December 1953.

DUBROVSKIY, Viktor Viktorovich; DUBINSKIY, Mikhail Mikhaylovich; LEBEDEV,  
Konstantin Petrovich; LYUBIMOV, Vladimir Ivanovich; SAVINA, Z.I.,  
redaktor; TROFIMOV, I.I., tekhnicheskii redaktor.

[Manual for submarine water-drilling] Spravochnik po bureniyu skva-  
zhin na vodu. Moskva, Gosmanehno-tekhn. izd-vo neftianoi i gorno-  
toplivnoi lit-ry, 1958. 548 s.  
(Oil well drilling, Submarine)  
(MLRA 9:5)

DUBROVSKIY, Viktor Viktorovich; KERCHENSKIY, Mikhail Mikhaylovich;  
LEBEDEV, Konstantin Petrovich; PLOKHOV, Vladimir Ivanovich;  
SAVINA, Z.A., vedushchiy red.; POLOSINA, A.S., tekhn.red.

[Manual of well boring for water supply] Spravochnik po  
bureniiu skvazhin na vodu. Izd.2., perer. i dop. Moskva,  
Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry,  
1960. 483 p. (MIRA 13:4)  
(Boring) (Wells)

L 7040-65 EPA/EWT(m)/EPF(n)-2/EPR/T-2/EWP(k)/EPA(bb)-2/EWP(q)/EWP(b)/  
EWP(r) Paa-4/Pf-4/Ps-4 ASD(d)/ASD(m)-3/AEDC(b)/AFTC(a)/ASD(p)-3/AFETR  
ACCESSION NR: AT4037534 MJW/JD/WW/HW S/2563/63/000/224/0193/0202

AUTHOR: Lebedev, K. P.; Yefimova, M.N.

TITLE: Experimental production of cast turbine blades from heat resistant alloys B

SOURCE: Leningrad. Politekhnikheskiy Institut. Trudy\*, no. 224, 1963. Liteyny\*ye  
svoystva zharoprochny\*kh splavov (Castability of heat-resistant alloys), 195-202

TOPIC TAGS: <sup>26</sup>gas turbine, <sup>18</sup>gas turbine blade, <sup>18</sup>cast gas turbine blade, heat resistant  
alloy, heat resistant alloy casting, alloy EI-612, steel 15Kh11MF

ABSTRACT: One of the principal deficiencies of cast rotor blades is the instability of  
their mechanical properties, and the requirement that rotor blades be tested under  
definite operating conditions. The authors therefore tested high-stress cast rotor  
blades made of different heat-resistant alloys, including those developed in the Kafedra  
liteynogo proizvodstva LPI (Department for Casting Production of the Leningrad  
Polytechnical Institute). Work was carried out with a cast blade, completely corres-  
ponding in form and dimensions to the model (a mechanically machined stamped blade.)  
Together with conventional free casting of the forms, centrifugal pressure was applied  
after filling the forms with metal to increase the hydrostatic pressure. In view of the

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positive effect of streamless casting on the quality of castings of film-forming alloys, a vacuum suction casting technique, developed at the Casting Laboratory, was also tested. The experiments were conducted on austenitic alloy 111, which contains neither titanium nor aluminum (and is consequently not an active film-forming alloy), austenitic alloy EI 612 containing 1% Ti, and steel 15Kh11MF of the martensite class. The authors found that a cast high-stress rotor blade can be obtained by free pouring provided that the alloy is not film-forming. A stable complex of mechanical properties is achieved by pouring through a casting gate system with slot feed. Alloy 111, which has relatively good casting properties, yields high quality cast rotor blades. When casting blades from alloys EI 612 and 15Kh11MF, despite the high values for tensile strength and yield point, the elongation is extremely low in the majority of cases with either centrifugal air pouring or the vacuum suction method. This is due to intensive film formation (in the case of EI 612) and non-uniform ferrite distribution (in the case of 15Kh11MF). Successful use of film-forming alloys of the EI 612 type for cast blades might be made possible by casting methods which ensure the absence of films during melting and pouring. This necessitates either melting and pouring in a vacuum or further development of the vacuum suction metal-feeding system. Experimentation

Card 2/3

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ACCESSION NR: AT402753A

showed that uniform ferrite distribution with optimum content of C, Cr, Si, and Ni in the alloy for a given rate of cooling may be achieved when casting blades of 15Kh11MF alloy. Centrifugal pouring can result in considerably improved feed conditions and, consequently, can ensure stable qualitative indices. Its practical utilization for film-forming alloys, however, requires a protective atmosphere. Orig. art. has: 4 tables and 5 figures.

ASSOCIATION: Leningradskiy politekhnicheskii Institut (Leningrad Polytechnical Institute)

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<p>•Plating of Light Alloys by the Method of Dipping in Fused Salts. K. P. Lebedev and T. K. Rinalskaya (<i>Tekhn. Nauchno-Issledovatel'skogo Instituta Legkikh Metallov</i>—<i>"LIGHT ALUMINIUM"</i>), 1932, (1 2), 82-86). [In <i>Institute for Light Metals</i>—<i>"LIGHT ALUMINIUM"</i>]. Metal coatings were obtained by dipping aluminium, Duralumin, and Elektron in molten salts of zinc, copper, nickel, cadmium, and chromium. The best results for aluminium and its alloys were obtained by coating it with zinc in a mixture of the chlorides of zinc 75, potassium 12.6, and sodium 12.6% at 425° C. for 3-5 minutes. Copper-plating was unsatisfactory, whilst the other metals require further experiments.— D. N. S.</p>																																																																																																																																																																											
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LEBEDEV, K.P.

Coating steel with lead bronze. T. I. Sheiko, K. P. Lebedev and F. A. Shelikhov. Russ. 31,084, Sept. 30, 1933. (1) The raw material is heated to 150° and immersed in fused borax to remove oxides; (2) the cleaned material is transferred into the molten lead bronze and then again into borax; (3) the cooled goods are cleaned in aq. NaOH; (4) this operation is followed by heating to 150°, and immersing in a melt of 70-92% Cu and 30-8% Pb heated to 1000-1200°; (5) the goods are finally treated on a centrifugal machine with a melt of 88-50% Cu and 12-50% Pb at a temp. of 1100-1200°.

ASSOCIATE METALLURGICAL LITERATURE CLASSIFICATION

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13

LEBEDEV, K. P.

Casting a Trough 6300 mm. Long of Aluminium Alloy. K. P. Lebedev.  
(Literature Data (Foundry Practice), 1936, (4), 26-27).—[In Russian.] A  
description of the method of moulding. —N. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESS AND PROPERTIES INDEX																									
LEBEDEV, K. I.																									
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<p>✓ Silicon brasses. K. Lebedev. <i>Lit. Rev. 8</i>, No. 8, 41 6(1937); <i>Met. Abstracts on Metals &amp; Alloys</i>, 9, No. 3, 184(1938).—An alloy contg. Cu 85, Zn 10 and Si 5% was investigated. Tensile strength varies between 62,000 and 74,000 lb./sq. in. (43.8 and 52.2 kg./sq. cm.) increasing with the lower casting temp. Castability of the alloy is better than of Pb brasses and Al. Its shrinkage in the 980-1010° range is 1.6%. The alloy is very sensitive to overheating, which causes cracking. A casting range of 960°-1030° should be closely adhered to. Formation of solid skin caused by Si oxidation on the surface of metal requires careful casting practice and is liable to cause some trouble in hydraulic testing. Sea water corrosion resistance of the alloy was very good. Anti-friction characteristics of the metal are close to those of Sn bronze. M. W. H.</p>																									
ASM-A-1 METALLURGICAL LITERATURE CLASSIFICATION																									

15

LEBEDEV, K. P.

*M*

**The Centrifugal Casting of Flanges for [Copper] Pipe-Lines.** K. P. Lebedev  
(*Sudostroenie*, 1948, (6), 21-22). [In Russian]. A simple machine is described  
for the centrifugal casting of flanges in copper alloy (90-10 brass or a man-  
ganese-bronze). The method results in a much smaller number of casters  
than does sand casting. N. B. V.

ASB-51.1 METALLURGICAL LITERATURE CLASSIFICATION

LEBEDEV, K P

Tekhnologiya Proizvoostva Grebnykh Vintov. (Technology of Screw Propeller Manufacturing, by) K.F. Lebedev i M.N. Sokolov. Leningrad, Sudfregiz, 1951.

372 p. Tables, Diags.

Cataloged from Abstract.

Discusses materials utilized for the manufacturing of propellers, molding methods including computation of necessary adjustments, procedures of fusion and priming etc.

RUSSIYAN, S.V.; GOLOVANOV, N.N.; LYBDEY, K.P., otvetstvennyy redaktor;  
LITVINOV, L.F., redaktor; FRUMKIN, P.S., tekhnicheskiy redaktor

[Technology and organization of precision casting] Tekhnologiya i  
organizatsiya proizvodstva tochnogo lit'ia. [Leningrad] Gos. izd-vo  
sudostroitel'stva, 1953. 138 p. [Microfilm] (MIRA 9:9)  
(Precision casting)

LEBEDEV, K.I.; CHIZHIKOVA, L.V.; SARAYLOV, M.G.; KRIMER, F.P.; LEBEDEV,  
K.P., inzhener, retsenzent; BARANOV, I.A., inzhener, redaktor;  
LEYKINA, T.L., redaktor; POL'SKAYA, R.G., tekhnicheskiy redaktor.

[Improving the technology of casting fixtures] Usovershenstvovanie  
tekhnologii otlivki detalei armatury. Moskva, Gos.nauchno-tekhn.  
izd-vo mashinostroit.lit-ry, 1955. 154 p. (MLRA 8:11)  
(Founding)

VEYNGARTEN, A.; <sup>[P]</sup>LEBEDEV, K.; LIBERMAN, E.; REMIZOVA, Ye.; ROZEN, M.  
SOKOLOV, N.

Experiment in making stainless steel propellers. Mor.flot 16  
no.2:24-26 F '56. (MLRA 9:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut Ministerstva  
sudostroitel'noy promyshlennosti.  
(Propellers)

LEBEDEV, K. P.

"Centrifugal Casting of Large Bushings From Copper Alloys," p. 73.  
in book Mechanization and Automatic Control of Founding Processes, Leningrad,  
1957, 224pp.



LEBEDEV, K.P., kand.tekhn.nauk; VIKHOREVA, T.M., inzh.: VESELOVA, A.I.,  
inzh.

Improved technology of casting brass propellers. Lit.proizv.  
no.8:7-10 Ag '57. (MIRA 10:10)  
(Brass founding)  
(Propellers)

~~LEBEDEV, K. P.~~: Master Tech Sci (diss) -- "Centrifugal casting of large bushings and pipes of nonferrous alloys". Leningrad, 1958. 18 pp (Min Higher Educ USSR, Leningrad Polytech Inst im M. I. Kalinin), 150 copies (KL, No 7, 1959, 125)

VYSEMIIRSKIY, Mikhail Mikhaylovich; LEBEDEV, K.P., dotsent, kand.tekhn.nauk, retsenzent; SKOBNIKOV, K.M., dotsent, kand.tekhn.nauk, red.; VARKO-VETSKAYA, A.I., red.izd-va; FRUMKIN, P.S., tekhn.red.

[Coremaker] Starzhenshchik. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 172 p. (MIRA 13:5)  
(Coremaking)

NEKHENDZI, Yu.A., prof., doktor tekhn.nauk, otv.red. (Leningrad);  
GIRSHOVICH, N.G., prof., doktor tekhn.nauk, red. (Leningrad);  
LEBEDEV, K.P., dotsent, red.; DIJGOKANSKAYA, Ye.A., tekhn.  
red.; SHCHETININA, L.V., tekhn.red.

[Modern achievements in foundry practice; transactions of the  
Intercollegiate Scientific Technological Conference] Trudy  
Mezhvuzovskoy nauchno-tekhnicheskoy konferentsii. Sovremennye  
dostizhenia liteinogo proizvodstva. Moskva, Gos.nauchno-  
tekhn.izd-vo mashinostroit.lit-ry, 1960. 338 p.

(MIRA 13:6)

1. Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya, 1957.  
(Founding)

BELOUSOV, Nikolay Nikolayevich; LIPNITSKIY, A.M., red.; LEBEDEV, K.P.,  
kand. tekhn. nauk, red.; KUREPINA, G.N., red. izd-va; BARDINA, A.A.,  
tekhn. red.

[Melting and casting nonferrous metal alloys] Plavka i razlivka  
splavov tsvetnykh metallov. Pod obshchei red. A.M. Lipnitskogo.  
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 77 p.  
(MIRA 14:12)

(Nonferrous metals---Founding)

SOKOLOV, Aleksey Nikolayevich; LEBEDEV, K.P., kand. tekhn. nauk, dots.,  
retsenzent; LIPNITSKIY, A.M., red.; ROTACH, T.M., red.izd-va;  
PETERSON, M.M., tekhn. red.

[Foundry alloys used in the manufacture of machinery] Liteinye  
splavy, primenyaemye v mashinostroenii. Pod obshchei red. A.M.  
Lipnitskogo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.  
lit-ry, 1961. 137 p. (Bibliotekha liteishchika, no.1)  
(MIRA 14:9)

(Machinery industry) (Foundries—Equipment and supplies)

LEBEDEV, K.P.; VESELOVA, A.I.; YEFIMOVA, M.N.

Foundry and technological properties of LNMtsZha 62-1-2-1-1 alloys.  
Lit. proizv. no. 4:40-41 Ap '61. (MIRA 14:4)  
(Press founding)

VEYNGARTEN, Abram Mikhaylovich, kand. tekhn.nauk; DELLE, Vasiliy Adoliyevich, prof., doktor tekhn. nauk; MOSKIN, Aba Vladimirovich, kand. tekhn. nauk; SOKOLOV, Nikolay Nikolayevich, kand. tekhn. nauk; TOVSTYKH, Yevgeniy Vasil'yevich, kand. tekhn. nauk; SHPEYZMAN, Veniamin Matveyevich, kand. tekhn. nauk; LEBEDEV, K.P., kand. tekhn. nauk, retsenzent; ALESHIN, D.V., inzh., retsenzent; MES'KIN, V.S., doktor tekhn. nauk, nauchnyy red.; KLIORINA, T.A., red.; TSAL, R.K., tekhn. red.; KRYAKOVA, D.M., tekhn. red.

[Shipbuilding steel]Sudostroitel'naia stal'. [By] A.M. Veingarten i dr. Leningrad, Sudpromgiz, 1962. 303 p.  
(MIRA 15:11)

(Shipbuilding materials) (Steel, Structural)



KURATOV, Pavel Rudol'fovich, inzh.; LEBEDEV, K.P., red.

[Production of thin-walled castings by the method of directed consecutive crystallization] Izgotovlenie tonkostennogo lit'ia metodom napravlenno-posledovatel'noi kristallizatsii. Leningrad, 1963. 14 p. (Leningradskii Dom nauchno-tekhnikeskoi propagandy. Obmen peredovym opytom. Seriia: Liteinoe proizvodstvo, no.5)

(MIRA 17:4)

GIRSHOVICH, N.G.; LEBEDEV, K.P.; NEKHENDZI, Yu.A.

Expansion of ferrous and nonferrous alloys before shrinkage. Lit.proizv.  
no.4:23-28 Ap '63. (MIRA 16:4)  
(Alloys) (Expansion (Heat))

SHABASHOV, Ya.F.; LEBEDEV, K.P.

Increasing the technical and economic indices of the melting  
process of loose and briquetted chips in electric furnaces.  
TSvet. met. 36 no.4:84-87 Ap '63. (MIRA 16:4)

(Nonferrous metals—Metallurgy)  
(Scrap metals)

LEBEDEV, K.P.; YEFIMOVA, M.N.

Manufacture of cast turbine blades of heat-resistant alloys. Trudy  
LPI no. 224:195-202 '63. (MIRA 17:9)

L 14966-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) ASD(m)-3 MJW/JD/EN/JG/JT/MLK  
 ACCESSION NR: AT4046855 S/0000/64/000/000/0276/0283

AUTHOR: Nekhendizi, Yu, A.; Lebedev, K. P.

TITLE: A heat-resistant cast alloy with nitrogen additions for temperatures of 600-700C

SOURCE: AN SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 276-283

TOPIC TAGS: casting alloy heat resistant alloy, nitrogen containing alloy, chromium  
nickel alloy, austenitic steel, steel mechanical property / alloy PZh-2

ABSTRACT: The authors present an evaluation of the PZh-2 (P for polytechnical, Zh for heat-resistant) alloy, believed to be the best suited for casting processes among the alloys developed at their Polytechnical Institute to replace titanium and aluminum heat-resistant alloys which have lower casting properties. The alloy contains  $\leq 0.1\%$  C, 16-18% Cr, 0.85-1.1% V,  $< 0.02\%$  P, 0.3-0.6 Si, 13-15% Ni, 0.9-1.1 Nb,  $< 0.02\%$  S, 1.0-1.5% Mn, 1.1-1.5% Mo, and 0.1-0.15% N, is characterized by a short (about 30C) liquid-to-solid state transition interval (1403-1371C), and qualifies well for casting pieces of fine cross

Card 1/2

L 14966-65

ACCESSION NR: AT4046855

5

section and complex configuration. A large number of numerical values for the mechanical characteristics, stress-rupture strength, impact toughness, creep and fluidity of alloy samples, subjected to various thermal treatments, are presented in tables and diagrams, and are given an extensive theoretical and technical discussion. "N. P. Yermolayeva, P. D. Khinskiy, L. B. Zharovskaya, and T. A. Stepanova also took part in the study." Orig. art. has: 4 tables and 4 figures.

ASSOCIATION: Liteynaya laboratoriya Leningradskogo politekhnicheskogo instituta im. M. I. Kalinina (Casting Laboratory, Leningrad Polytechnical Institute)

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 001

Card 2/2

L 38959-65 EWT(m)/EPF(c)/EPE/EMA(d)/EMP(t)/ENP(b) Pr-4/PS-4 MJH/JD  
 ACCESSION NR: AP5008033 S/0128/65/000/003/0001/0004 32  
 30  
 B

AUTHOR: Nekhendzi, Yu. A. (Doctor of technical sciences); Lebedev, K. P. (Candidate of technical sciences)

TITLE: Nitrogen-bearing, cast, heat-resistant alloy 1/8

SOURCE: Liteynoye proizvodstvo, no. 3, 1965, 1-4

TOPIC TAGS: cast alloy, heat resistant alloy, cast heat resistant alloy, nitrogen containing alloy, alloy property/PZh-2 alloy

ABSTRACT: The Leningrad Polytechnical Institute has developed the PZh-2 cast, heat-resistant alloy (up to 0.1% C, 0.3—0.6% Si, 1.0—1.5% Mn, 16.0—18.0% Cr, 13.0—15.0% Ni, 0.85—1.1% V, 1.1—1.5% Mo, 0.9—1.1% Nb, 0.10—0.15% N). The alloy can be annealed at 1250C and aged at 750C or aged as-cast without annealing. Both heat treatments produce almost identical mechanical properties (see Table 1 of the Enclosure). The structure of the alloy was found to consist of austenite with inclusions of carbonitrides and intermetallic compounds, among which NbNC prevails. Carbon and nitrogen increase the quantity of carbonitrides and increase the strength and decrease ductility. Carbon appears to have a stronger effect than nitrogen. Annealing with aging raises the ductility and notch toughness at

Card 1/32

L 38959-65

ACCESSION NR: AP5008033

3

high nitrogen content more than does aging alone. Nitrogen also increases rupture strength, especially at a low carbon content. Alloy with 0.07% C and 0.14% N withstood 1600 hr at 600C under a stress of 3.7 kg/mm<sup>2</sup>, while alloy with 0.14% C and 0.16% N withstood only 693 hr under the same conditions. Precision cast PZh-2 alloy specimens withstood 26 kg/mm<sup>2</sup> stress for 19,154 hr at 600C with an elongation amounting to 10.4%. Adequate casting properties permit casting the PZh-2 alloy into intricate, thin-wall articles. The susceptibility of the alloy to hot cracking is somewhat higher than that of 18-8 steel. Vacuum degassing of the alloy considerably increases the fluidity and ductility, but lowers its heat resistance due to the removal of nitrogen. Orig. art. has: 7 figures and 5 tables.

[ND]

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: MM

NO REF SOV: 004

OTHER: 002

ATD PRESS: 3228

Card 2/3



LEBEDEV, K. P.

Sept 49

USSR/Medicine - Disinfection  
Sanitation

"Disinfecting the Air in Children's Institutions, Filtering the Air of Microbes Through an Oiled Screen," D. I. Kantor, K. P. Lebedev, 2 1/2 pp

"Gig i San" No 9

Found that air stream from 125-watt electric fan filtered through oiled granite screen 165 x 255 cm in size reduced microflora of 48.2 cu m room by 62-69%. Method is thus more effective than oiled skirting formerly used and has fewer drawbacks. Suggests method be further tested and used in schools and childrens hospitals.

BA 153T74

PUSTOVALOV, I.I., inzh.; LEBEDEV, K.S., inzh.; LYUBCHENKO, A.M., inzh.;  
MATVEYEV, V.A., inzh.. Prinimal uchastiye SHAPOSHNIKOV, A.V..  
BLOKHINA, V.V., red.; PECHENKIN, I.V., tekhn.red.

[Approximate time norms for repair work; metal machining, fitting, fitting-assembly, electric welding, gas welding, and forging operations for collective farms and state farms] Primernye normativy vremeni na remontnye raboty; mekhanicheskaya obrabotka metallov, slesarnye, slesarno-sbornye, elektrosvarochnye, gazosvarochnye i kuznechnye raboty dlia kolxozov i sovkhozov. Moskva, Izd-vo M-va sel'skogo khoz. SSSR, 1960. 199 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po voprosam truda i zarabotnoy platy.  
(Machine-shop practice)

PUSTOVALOV, I.I.; LEBEDEV, K.S.; LYUBCHENKO, A.M.; MATVEYEV, V.A.;  
DIMITIYEV, I.N., red.; SOKOLOVA, N.N., tekhn. red.

[Setting technical norms in repair workshops] Tekhnicheskoe  
normirovanie v remontnykh masterskikh. Moskva, Sel'khozizdat,  
1962. 270 p. (MIRA 15:7)

(Repairing--Standards)

LEBEDEV, K.V.; SENKEVICH, S.V.

Content of adrenaline in the blood in animals in intervention on  
chromaffin apparatus. Tr. Vsesoiuz. obsh. fiziol. no. 1:108 1952.  
(CIML 24:1)

1. Delivered 23 December 1949, Kazan'.